

GUREVICH, A.M.; IVASHCHENKO, P.S.; BABUSHKINA, O.A., redaktor; KRASHE-
NINNIKOVA, V.F., tekhnicheskiiy redaktor.

[Driver's manual for the DT-54 tractor] Pamiatka traktorista po
traktoru DT-54. [Stalingrad] Stalingradskoe knizhnoe izd-vo, 1954.
216 p. [Microfilm] (MLRA 8:2)
(Tractors)

GUREVICH, A.M.; IVANCHENKO, P.S.

[Manual for the "Stalinets-80" tractor operator] Pamiatka traktoristu
po traktoru "Stalinets-80". [Stalingrad] Stalingradskoe knizhnoe izd-
vo, 1955. 303 p. (MLRA 9:11)
(Tractors)

60 K. 1 R. 111
GUREVICH, Aleksandr Mikhaylovich; GOROZHANKIN, Viktor Ivanovich; KRI-
MERMAN, M.N., inzhener, redaktor; SOKOLOVA, N.N., tekhnicheskii re-
daktor

[Tractor DT-54] Traktor DT-54. Moskva, Gos.izd-vo.selkhoz.lit-ry.
1955. 318 p. (MLRA 9:1)

(Tractors)

SOV/123-59-16-66832

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 16, p 420 (USSR)

AUTHORS: Gurevich, A.M., Nagovitsyn, N.A., Bolotov, A.K.

TITLE: Investigations of the Wear of a Test Crankshaft of the D-54 Engine

PERIODICAL: Tr. Kirovskogo s.-kh. in-ta, 1958, 13, Nr 25, 42 - 48

ABSTRACT: The new "loop" lubrication system of the crankshaft reduced the wear of the crank journals of the shaft and of the bushings of the crank bearings. The service life of the crankshaft without balance weights with the new lubrication system is determined by the oval journals of the connecting rod and the maximum clearance in the connecting rod bearings.

Card 1/1

SOV/110-59-4-1/23

AUTHORS: Sarkisyan, A.M. (Engineer) and Guravich, A.M. (Engineer)

TITLE: The Electrification of Collective and State Farms - A Most Important Task of Party, Soviet and Agricultural Organs (Elektrifikatsiya kolkhovov i sovkhovov - vazhnyy zadacha partiynykh, sovetskikh i sel'skokhozyaystvennykh organov)

PERIODICAL: Vestnik Elektromyshlennosti, 1959, Nr 4, pp 1-4 (USSR)

ABSTRACT: By the end of the 1959-1965 Plan all the collective farms in the country should be electrified and State Farms should be electrified even earlier. This will help to increase labour productivity and will cut the costs of agricultural products. A great deal has already been done on the electrification of agriculture but still greater efforts are required. Figures are given about rural electrification and about the labour saving that it leads to. It is expected that during the seven years about 7000 MVA of rural load will be connected to the State Power Systems and Industrial Power Stations. There is an urgent need for more distribution transformers and packaged transformer sub-stations, the use of which can lead to considerable economies in installation costs and

Card 1/3

SOV/110-59-4-1/23

The Electrification of Collective and State Farms - A Most Important Task of Party, Soviet and Agricultural Organs

raw materials. In many districts it will be advisable to distribute 35 kV and transform to 400 V and many transformers for these voltages will be required. Transformers of 560 - 3200 kVA with on-load voltage control will be particularly required. The production of oil-filled capacitors of up to 50 kVAR at 10 kV must be increased. Not enough packaged sub-stations are being built. Work should be done to develop cheaper and lighter power distribution equipment for rural use. The production of insulators and other materials required for electrical installations is quite inadequate. The production of automatic diesel-driven power stations, that has commenced in Armenia, should be extended. It is proposed to construct diesel driven power stations on many State and Collective farms and the production of such equipment and associated parts must be organized. The production of all kinds of electrical equipment for agriculture must be

Card 2/3

SOV/110-59-4-1/23

The Electrification of Collective and State Farms - A Most Important Task of Party, Soviet and Agricultural Organs

extended; particular mention is made of sheep shearing machines, incubators, cattle-feed preparing machines and other equipment required for cattle farming.

Card 3/3

There are no figures, no literature references.

SUBMITTED: January 19, 1959

8(6), 30(1)

SOV/91-52-9-1/33

AUTHOR: Smirnov, I.G. and Gurevich, A.M., Engineers

TITLE: The Prospects for the Development of Agricultural Electrification in the USSR

PERIODICAL: Energetik, 1959, Nr 9, pp 1-3 (USSR)

ABSTRACT: According to the Seven-Year-Plan, the electrification of kolkhozes will be basically completed by the end of 1965, while the electrification of sovkhozes and RTS will be completed considerably earlier. During the Seven-Year-Plan, more than 40,000 kolkhozes will be additionally electrified and the power supply of sovkhozes and RTS will be improved. State power distribution systems, industrial and municipal power plants will supply about 70% of the kolkhozes, sovkhozes and RTS, while 10% of them will be supplied by rural power plants, operating on a kolkhoz, inter-kolkhoz, rayon or inter-rayon level. As far as possible, kolkhozes must contribute funds for the construction of such power plants. The capacities of

Card 1/5

SOV/12-59-0-1/33

The Prospects for the Development of Agricultural Electrification
in the USSR

rural power plants will be higher than 5000 kw and steam extraction turbines will be used if there is an adequate demand of steam for heating or technological purposes in the immediate vicinity. In those areas, where kolkhozes cannot be supplied from state power distribution systems, industrial, municipal or rural power plants, mobile 30-50 kw diesel power plants will be installed temporarily. Kolkhozes, sovkhoses and other consumers located near electrified RR lines may be supplied from the RR line substations. The Ministerstvo putey soobshcheniya (Ministry of Rail-Roads) will build these substations with adequate transformer capacities and with the necessary number of 6, 10 and 35 kv distribution cells. The electrification of sovkhoses, RTS and kolkhozes will be based on existing power plants and 110/35 kv substations, including those whose construction is scheduled during the Seven-Year-Plan. For providing

Card 2/5

SOV/91-59-9-1/33

The Prospects for the Development of Agricultural Electrification
in the USSR

power to all kolkhozes by the end of 1965 and for improving the existing power supply of sovkhoses and RTS, approximately 30 billion rubles must be spent on rural power projects. It is planned to build and to set in operation power substations with a total capacity of 7,000,000 kva, rural hydroelectric power plants with a total capacity of 270,000 kw and thermal power plants having a total capacity of more than 1,100,000 kw. Further, 1,500,000 km of high and low voltage power lines must be built. In 1965, agricultural enterprises will require 23-25 billion kw/h, which is about 4.5% of the total planned power output of the USSR. During the period from 1959 to 1965, an additional amount of 3.5 million electric motors will be installed at kolkhozes and sovkhoses, thus each electrified kolkhoz will be equipped with 40-45 electric motors on the average. Rural power plants and

Card 3/5

GOV/51-59-9-1/73

The Prospects for the Development of Agricultural Electrification
in the USSR

substations must be automated for increasing the reliability of the power supply. The construction costs of power distribution systems will be reduced by using transformer sets of 35/10 kv and 560-1800 kva, and 10/0.4 kv and 20-100 kva. In some areas of the USSR, the more economical 35/0.4 kv power distribution system will be used instead of the 35/10 kv and 10/0.4 kv systems. The Soviet electrical industry will be confronted with the task of producing the required equipment and materials for these projects; circuit breakers, open air and underground cables, insulators, protector relays, transformers, motors and electrical agricultural machinery. The production of 35/0.4 kv transformers must be increased, as well as the production of stationary diesel power plants of more than 100 kw and mobile diesel power plants of 30 and 50 kw. The construction and assembly organizations of "Sel'elektro" must perform

Card 4/5

SCV/91-59-9-1/33

The Prospects for the Development of Agricultural Electrification
in the USSR

a great amount of work during the Seven-Year Plan.

Card 5/5

← GUREVICH, A. M.; SOROKIN, Ye. M.; SHKOL'NIKOV, A. B., red.; GOR'KOVA,
Z. D., tekhn. red.; TRUKHINA, O. N., tekhn. red.

[Tractors and motor vehicles] Traktory i avtomobili. Mo-
skva, Izd-vo sel'khoz. lit-ry, zhurnalov i plakatov, 1961.
567 p. (MIRA 15:3)
(Tractors) (Motor vehicles)

GUREVICH, A.M.; GOROZHANKIN, V.I.; PESTRYAKOV, A.I., red.; PEVZNER,
V.I., tekhn. red.

[DT-54A and T-75 tractors] Traktory DT-54A i T-75. 2., dop.
izd. Moskva, Sel'khozizdat, 1963. 310 p. (MIRA 16:5)
(Tractors--Design and construction)

GUREVICH, A.M.

"Theory, design, and calculations of tractor and automobile engines" by [akademik] V.N. Boltinskii. Reviewed by A.M. Gurevich. Mekh. i elek. sots. sel'khoz. 21 no.1:64 and p. 3 of cover '63. (MIRA 16:7)

1. Kirovskiy sel'skokhozyaystvennyy institut.
(Tractors—Engines)
(Motor vehicles—Engines)
(Boltinskii, V.N.)

GUREVICH, A.M.; SOROKIN, Ye.M.; SHKOL'NIKOV, A.B., red.

[Tractors and motor vehicles] Traktory i avtomobili.
Izd.3., ispr. i dop. Moskva, Izd-vo "Kolos," 1964. 543 p.
(MIRA 17:5)

PROCESS AND PROPERTY INDEX																									
1ST AND 2ND GROUPS													3RD AND 4TH GROUPS												
<p><i>M</i> FOR FACTUAL M 23</p> <p>*The Electrolytic Deposition of Copper-Nickel Alloys. J. Kryzanowski and A. Gurewicz (<i>Przemysl. Chem.</i>, 1937, 81, 208-213; <i>Chem. Apparatur</i>, 1938, 86, (4), 65).—The influence was tested of the concentrations of acetic acid and thio-urea, of the current density at the cathode, of the relative and total concentrations of the two metals, and of the temperature. The conditions for the production of good deposits were determined.—D. S.</p>																									
<p>ASM-A1A METALLURGICAL LITERATURE CLASSIFICATION</p> <p>630MI SYMBOLISM</p> <p>631131 000 000 111</p>																									

GUREVICH, A.M.; RASSKAZOVSKIY, V.T.

Degree of reliability of reinforced concrete elements designed
by the limit state method. Izv.AN Uz.SSR no.7:90-91 '56.

(MIRA 14:5)

(Reinforced concrete)

GUREVICH, A.M.

General assembly of academicians and corresponding members of the
Uzbek Academy of Sciences. Izv. AN Uz. SSR no. 12:91-110 '56.
(MIRA 14:5)
(Academy of Sciences of the Uzbek S.S.R.)

PHASE I BOOK EXPLOITATION SOV/5410

Tashkentaskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii, Tashkent, 1959.

Trudy (Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. 449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abdurasulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiv; Ye. M. Iobanov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

Card 1/20

Transactions of the Tashkent (Cont.)

SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

Card 2/20

Transactions of the Tashkent (Cont.)

SOV/5410

instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION
IN ENGINEERING AND GEOLOGY

Lobanov, Ye. M. [Institut yadernoy fiziki UZSSR - Institute of Nuclear Physics AS UzSSR]. Application of Radioactive Isotopes and Nuclear Radiation in Uzbekistan

7

Teksar, I. M., and V. A. Yanushkovskiy [Institut fiziki AN Latv SSR - Institute of Physics AS Latvian SSR]. Problems of the Typification of Automatic-Control Apparatus Based on the Use of Radioactive Isotopes

9

Card 3/20

Transactions of the Tashkent (Cont.)	SOV/5410	
Physics AS KazSSR]. Experimental Application of the Scintillation Gamma-Defectoscope		47
Levitskiy, R. V., A. M. Gurovich, D. F. Pavlov, and M. Deolotbekov. [Institute of Nuclear Physics AS UzSSR]. Gamma Radiography Reinforced Concrete		53
Yakobson, I. I. [Tashkentskiy institut inzhenerov zheleznodorozhnogo transporta - Tashkent Institute of Railroad Transportation Engineers]. Gammagraphy of Parts of Rolling Stock		59
Chubarov, L. B. [Tashkent Institute of Railroad Transportation Engineers]. Gammagraphy of Welded Joints of Pipes in the Circulation System		69
Maminov, M. M. [Uzbekskiy gosudarstvennyy universitet im. A. Navoi - Uzbek State University imeni A. Navoi]. Possability of Applying Radioactive Cobalt for Quality Control in Brickwall Laying		71
Card 6/20		

YUDIN, G.N.; GUREVICH, A.M.

Technical and economic comparison of methods of making large diameter,
electrically welded pipes. Stal' 20 no.10:928-929 O '60.

(MIRA 13:9)

(Pipe, Steel--Welding)
(Electric welding--Costs)

MILLER, V.Ya.; GUREVICH, A.M.; UTKOV, V.A.

Sintering manganese concentrate from Polunochnoye deposit ores at
Gora Blagodat' Plant No. 1. Trudy Inst. met. UFAN SSSR no.7:85-88
'61. (MIRA 16:6)

(Polunochnoye region--Manganese ores)
(Polunochnoye region--Carbonates)
(Sverdlovsk Province--Sintering)

LEYBOVICH, Naum Iosifovich; GUREVICH, A.M., red.; BRUSHTEYN, A.I.,
red. izd-va; OBUKHOVSKAYA, G.P., tekhn. red.

[Planning and the analysis of pipe costs] Planirovanie i analiza
sebestoimosti trub. Moskva, Metallurgizdat, 1963. 123 p.
(MIRA 16:6)

(Rolling (Metalwork))--Estimates and costs
(Pipe mills)

KADYSHEVICH, Abo Yefimovich; GUREVICH, A.M., retsenzent; YEREMEYEVA,
K.N., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Measurement of flame temperature; physical fundamentals and
methods] Izmerenie temperatury plameni; fizicheskie osnovy i
metody. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i
tsvetnoi metallurgii, 1961. 218 p. (MIRA 14:12)
(Flame) (Pyrometry)

1ST AND 2ND CIPHERS																																																																													
PROCESS AND PROPERTIES INDEX													1ST AND 2ND CIPHERS																																																																
<p>Quantum yield in photocells of different types. A. M. Gurevich. <i>J. Tech. Phys.</i> (U. S. S. R.) 10, 943 (1940). Quantum yields in photocells of different types were estd. from the measurements of the integral sensitivity for various color temps. of light source, and for various spectral sensitivities. The largest value of quantum yield was found for the Sb-Cs photocells with external photoeffect, and for S-Tl photocells with the positive photoeffect of the stopping layer. In O-Ag-Cs photocells the quantum yield is very low. R. Gamow</p>																																																																													
<p>ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																																													
<table border="1"> <thead> <tr> <th colspan="13">1ST AND 2ND CIPHERS</th> <th colspan="13">1ST AND 2ND CIPHERS</th> </tr> </thead> <tbody> <tr> <td colspan="13">1ST AND 2ND CIPHERS</td> <td colspan="13">1ST AND 2ND CIPHERS</td> </tr> </tbody> </table>																										1ST AND 2ND CIPHERS													1ST AND 2ND CIPHERS													1ST AND 2ND CIPHERS													1ST AND 2ND CIPHERS												
1ST AND 2ND CIPHERS													1ST AND 2ND CIPHERS																																																																
1ST AND 2ND CIPHERS													1ST AND 2ND CIPHERS																																																																

Temperature Measurement with Optical Pyrometers. A. M. Gurevich and
A. Ya. Lerner (*Zavod. Lab.*, 1946, 12, (3), 292-315). - [In Russian]. Various
types of optical pyrometers are reviewed from the point of view of their
present state of development. - N. A.

GUREVICH, A. M.

"Principles of the Rational Construction of Photo-electric
Pyrometers." Sub 12 Dec. 47, Inst of Automatics and Tele-mechanics,
Acad Sci USSR

Dissertations presented for degrees in science and engineering in
Moscow in 1947

SO: Sum No. 457, 18 Apr 55

GURVICH A.M.

Objective (Photoelectric) Optical Pyrometer. A. M. Gurvich.
 (Zavodskaya Laboratoriya, 1958, 16, (11), 1244-1245).
 The photoelectric optical pyrometer described is designed for use in controlling temperature when rolling metal. The normal temperature range of the instrument is 800-1300° C. A narrow wavelength band (0.4-0.7 μ) is used, enabling the sensitivity and accuracy of a visual pyrometer to be combined with objectivity of readings and possibility of recording. Optical and circuit diagrams are given and the performance under exacting industrial conditions is compared with other types of instrument. —g.c.

Central Lab. of Automatics

GUREVICH, A. M.

USSR/Miscellaneous

Card 1/1

Author : Gurevich, A. M., Cand. in Tech. Sciences

Title : Photoelectric pyrometer FEP-3

Periodical : Nauka i Zhizn', 21/3, 35, Mar/1954

Abstract : Optical and radiation pyrometers are used for measuring the heat of fast-moving hot metal in rolling mills. The Central Laboratory of automatics of the Ministry of Metallurgical Industry has produced a photoelectric pyrometer the FEP-3. The pointer moves full scale on 80 mv. The instrument is water cooled. It shows variations of temperature of 1-2 degrees.

Institution :

Submitted :

L 04271-67

ACC NR: AP6013297

SOURCE CODE: UR/0413/66/000/008/0090/0091

AUTHORS: Gurevich, A. M.; Zuyev, V. M.; Oleynikov, P. P.

ORG: none

TITLE: Automatic radiation pyrometer¹⁰ for measuring actual temperature¹⁰ of reflecting non-black bodies. Class 42, No. 180832 [announced by Central Laboratory of Automation (Tsentral'naya laboratoriya avtomatiki)]^{34 B}

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 90-91

TOPIC TAGS: pyrometer, radiation pyrometer, pyrometry, temperature measurement

ABSTRACT: This Author Certificate presents an automatic radiation pyrometer for measuring the actual temperature of reflecting non-black bodies. The pyrometer contains a radiation receiver, a comparator in the form of an incandescent lamp or a black body, and an optical system. To diminish its inertia and to simplify the construction of the head and the placing of the head at a desired distance from the investigated surface, the pyrometer is provided with an additional comparator (an incandescent lamp or a black body) connected in series or in parallel with the basic comparator unit. The radiation characteristics of the two comparators are identical. To make the utilization of older pyrometers possible, the additional comparator may be placed in a separate holder.

SUB CODE: 13/ SUBM DATE: 18Jul63

Card 1/1

UDC: 536.521.007.4

ACC NR: AP6035696

(A, N)

SOURCE CODE: UR/0413/66/000/019/0045/0045

INVENTORS: Gurevich, A. M.; Pozharitskiy, D. M.

ORG: none

TITLE: A method for pulse control of a relay amplifier using a thyristor. Class 21, No. 186531 [announced by State All-Union Central Scientific Research Institute of Complex Automation (Gosudarstvennyy vsesoyuznyy tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 45

TOPIC TAGS: control circuit, pulse amplifier, amplifier design

ABSTRACT: This Author Certificate presents a method for pulse control of a relay amplifier using a thyristor with an alternating current power supply and a direct current electromagnetic load shunted by a diode. The design provides for storage of the control signals. Pulses are fed to the control electrode of the thyristor during each positive half-cycle of the voltage power supply. These pulses are of such a duration that the current in the load is insufficient to maintain the thyristor in the "on" state. To switch on the amplifier, the duration of the pulses is briefly increased. To switch off the amplifier, the supply of pulses is briefly cut off.

SUB CODE: 09/

SUBM DATE: 10Nov64

Card 1/1

UDC: 621.375.67

CA
GUREVICH, A M

Gas-analyzing device. A. M. Gurevich. Russ. 26,404, May 30, 1931. Mechan-
cal features.

ASS-5LA METALLURGICAL LITERATURE CLASSIFICATION

107020 * 1 107020 H10 000 001 43111000 107020 030100

107020 * 1 107020 H10 000 001 43111000 107020 030100

ca GUREVICH, A.M.

Gas-analyzing apparatus. A. M. GUREVICH. Russ. 27,222, July 10, 1941. The gas is treated in a barrel with a liquid which is sprayed through a spraying funnel, the liquid being recirculated by means of a pump. Cf. C. A. 26, 5743.

ASY-5L4 METALLURGICAL LITERATURE CLASSIFICATION

REGIONAL DIVISIONS

SUBJECT INDEX

CLASSIFICATION

RESEARCH AND DEVELOPMENT

TECHNICAL SERVICES

ADMINISTRATIVE SERVICES

GENERAL INFORMATION

LIBRARY SERVICES

EXCHANGE SERVICES

INTERNATIONAL COOPERATION

CONFERENCES AND SYMPOSIA

PUBLICATIONS

PERIODICALS

BOOKS

MANUSCRIPTS

ARCHIVES

REFERENCE SERVICES

EDUCATIONAL SERVICES

PROFESSIONAL SOCIETIES

INDUSTRIAL RESEARCH

ACADEMIC RESEARCH

GOVERNMENT RESEARCH

MILITARY RESEARCH

CIVILIAN RESEARCH

SCIENTIFIC RESEARCH

TECHNOLOGICAL RESEARCH

HUMANITIES RESEARCH

SOCIAL SCIENCES RESEARCH

NATURAL SCIENCES RESEARCH

LIFE SCIENCES RESEARCH

PHYSICAL SCIENCES RESEARCH

MEDICAL RESEARCH

AGRICULTURAL RESEARCH

FISHERIES RESEARCH

FORESTRY RESEARCH

MINING RESEARCH

ENERGY RESEARCH

ENVIRONMENTAL RESEARCH

SPACE RESEARCH

ASTRONOMY RESEARCH

GEOGRAPHY RESEARCH

GEOLOGY RESEARCH

METEOROLOGY RESEARCH

OCEANOGRAPHY RESEARCH

CLIMATE RESEARCH

BIOLOGY RESEARCH

ZOOLOGY RESEARCH

ENTOMOLOGY RESEARCH

ORNITHOLOGY RESEARCH

ICHTHYOLOGY RESEARCH

BOTANY RESEARCH

ZOOBOTANY RESEARCH

MYCOLOGY RESEARCH

BACTERIOLOGY RESEARCH

VIRATOLOGY RESEARCH

IMMUNOLOGY RESEARCH

PATHOLOGY RESEARCH

PHARMACOLOGY RESEARCH

TOXICOLOGY RESEARCH

PSYCHOLOGY RESEARCH

PSYCHIATRY RESEARCH

NEUROLOGY RESEARCH

OPHTHALMOLOGY RESEARCH

OTORHINOLARYNGOLOGY RESEARCH

DERMATOLOGY RESEARCH

UROLOGY RESEARCH

GYNECOLOGY RESEARCH

PEDIATRICS RESEARCH

GERIATRICS RESEARCH

ORTHOPAEDICS RESEARCH

RHEUMATOLOGY RESEARCH

ARTHRITIS RESEARCH

OSTEOPOROSIS RESEARCH

DIABETES RESEARCH

HYPERTENSION RESEARCH

ASCIDOSIS RESEARCH

LEUKEMIA RESEARCH

LYMPHOMA RESEARCH

MELANOMA RESEARCH

BLADDER CANCER RESEARCH

RECTAL CANCER RESEARCH

STOMACH CANCER RESEARCH

COLON CANCER RESEARCH

ESOPHAGEAL CANCER RESEARCH

TRACHEAL CANCER RESEARCH

BRONCHIAL CANCER RESEARCH

LUNG CANCER RESEARCH

OVARIAN CANCER RESEARCH

UTERINE CANCER RESEARCH

CERVICAL CANCER RESEARCH

VAGINAL CANCER RESEARCH

TESTICULAR CANCER RESEARCH

PROSTATE CANCER RESEARCH

PANCREATIC CANCER RESEARCH

LIVER CANCER RESEARCH

GALLBLADDER CANCER RESEARCH

BILE DUCT CANCER RESEARCH

SPLEEN CANCER RESEARCH

ADRENAL CANCER RESEARCH

PITUITARY CANCER RESEARCH

HYPOTHALAMIC CANCER RESEARCH

THYROID CANCER RESEARCH

PARATHYROID CANCER RESEARCH

PINEAL CANCER RESEARCH

HIPPOPHYSEAL CANCER RESEARCH

CRANIOPHARYNGEAL CANCER RESEARCH

EPIPHYSIS CANCER RESEARCH

ENDOMETRIOSIS RESEARCH

ADENOMATOUS POLYPS RESEARCH

HYPERPLASIA RESEARCH

DYSPLASIA RESEARCH

NECROSIS RESEARCH

APLASIA RESEARCH

ERYTHROCYTOSIS RESEARCH

LEUKOCYTOSIS RESEARCH

THROMBOCYTOSIS RESEARCH

HAEMOPHOUSIA RESEARCH

HAEMOPHYLISM RESEARCH

HAEMOPHILIC INFECTIONS RESEARCH

HAEMOPHILIC VIRUSES RESEARCH

HAEMOPHILIC BACTERIA RESEARCH

HAEMOPHILIC FUNGI RESEARCH

HAEMOPHILIC PARASITES RESEARCH

HAEMOPHILIC PLANTS RESEARCH

HAEMOPHILIC ANIMALS RESEARCH

HAEMOPHILIC HUMANS RESEARCH

HAEMOPHILIC COMMUNITIES RESEARCH

HAEMOPHILIC ECOSYSTEMS RESEARCH

HAEMOPHILIC BIOSPHERE RESEARCH

HAEMOPHILIC COSMOSPHERE RESEARCH

HAEMOPHILIC UNIVERSE RESEARCH

HAEMOPHILIC MULTIVERSE RESEARCH

HAEMOPHILIC OMNIVERSE RESEARCH

HAEMOPHILIC EVERYTHING RESEARCH

HAEMOPHILIC NOTHING RESEARCH

HAEMOPHILIC SOMETHING RESEARCH

HAEMOPHILIC ANYTHING RESEARCH

HAEMOPHILIC EVERYBODY RESEARCH

HAEMOPHILIC NOBODY RESEARCH

HAEMOPHILIC SOMEBODY RESEARCH

HAEMOPHILIC ANYBODY RESEARCH

HAEMOPHILIC EVERYONE RESEARCH

HAEMOPHILIC NO ONE RESEARCH

HAEMOPHILIC SOMEONE RESEARCH

HAEMOPHILIC ANYONE RESEARCH

HAEMOPHILIC EVERYWHERE RESEARCH

HAEMOPHILIC NOWHERE RESEARCH

HAEMOPHILIC SOMEWHERE RESEARCH

HAEMOPHILIC ANYWHERE RESEARCH

HAEMOPHILIC EVERYTIME RESEARCH

HAEMOPHILIC NOTHETIME RESEARCH

HAEMOPHILIC SOMETIME RESEARCH

HAEMOPHILIC ANYTIME RESEARCH

HAEMOPHILIC EVERYDAY RESEARCH

HAEMOPHILIC NOTHEDAY RESEARCH

HAEMOPHILIC SOMEDAY RESEARCH

HAEMOPHILIC ANYDAY RESEARCH

HAEMOPHILIC EVERYBODY RESEARCH

HAEMOPHILIC NOBODY RESEARCH

HAEMOPHILIC SOMEBODY RESEARCH

HAEMOPHILIC ANYBODY RESEARCH

HAEMOPHILIC EVERYONE RESEARCH

HAEMOPHILIC NO ONE RESEARCH

HAEMOPHILIC SOMEONE RESEARCH

HAEMOPHILIC ANYONE RESEARCH

HAEMOPHILIC EVERYWHERE RESEARCH

HAEMOPHILIC NOWHERE RESEARCH

HAEMOPHILIC SOMEWHERE RESEARCH

HAEMOPHILIC ANYWHERE RESEARCH

HAEMOPHILIC EVERYTIME RESEARCH

HAEMOPHILIC NOTHETIME RESEARCH

HAEMOPHILIC SOMETIME RESEARCH

HAEMOPHILIC ANYTIME RESEARCH

HAEMOPHILIC EVERYDAY RESEARCH

HAEMOPHILIC NOTHEDAY RESEARCH

HAEMOPHILIC SOMEDAY RESEARCH

HAEMOPHILIC ANYDAY RESEARCH

GURVICH, A. M.

Adsorption of radium by glass. I. R. STARK AND A. M. GURVICH. *Compt rend acad. sci. (U. R. S. S.)* 1931A, No. 12, 331-6. — Radioactivity of neutral and acid solns in glass tubes contg 3.6×10^{-4} g. of Ra in 5 cc. of soln. was measured with a Schmidt

app. The initial activity of the neutral soln. was 211 divisions per min.; of the acid soln. (N/6 HCl), 297.2 div./min. After 20 days the radioactivity became practically const., having decreased in the acid soln. to 210 and in the neutral to 145. Addn. in the beginning to the neutral soln. of HCl to a concn. of N/6 raised the activity to 265.4. Addn. of HCl after the neutral soln. reached its min. radioactivity raised the activity to 210. Ra is thought to be absorbed and adsorbed by glass. Absorption is independent of acidity of soln. but the adsorbed layer is washed off by acid. FRITZ P. LUK

AND SEE METALLURGICAL LITERATURE CLASSIFICATION

		FIRST AND SECOND ORDERS																										THIRD AND FOURTH ORDERS																									
		A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA BB CC DD EE													F G H I J K L M N O P Q R S T U V W X Y Z AA BB CC DD EE																																						
GUREVICH A.M.		PROCESSES AND PROPERTIES INDEX																																																			
CA		<p>Absorption of radium by glass. I. B. Strik and A. M. Gurevich. <i>Trav. inst. Etat radium</i> (U. S. S. R.) 3, 241-55 (in English 255) (1937); cf. C. A. 26, 4535.—The extent of Ra adsorption by glass from $RaBr_2$ soln. contg. 5×10^{-4} g. Ra per cc. apparently depends on the amt. of impurities present. In a carefully purified soln. the degree of adsorption remains const. in the range pH 6.5-4.5. Further increase in acidity sharply lowers the adsorption, which becomes practically negligible at pH 2.3. The data for slightly alk. media (pH 7.9) cannot be compared with those for acid media because of the possible presence of colloid particles (SiO_2, etc.) in the alkali used. Change in adsorption with time is greatly dependent upon the impurities present in the soln. and is probably due to the presence of complex colloid particles on which Ra is adsorbed.</p> <p style="text-align: right;">John Livak</p>																																																			

GUREVICH, A.M.

BC

A-1

Oxidation-reduction potentials in the system $\text{UO}_2\text{SO}_4\text{-U}(\text{SO}_4)_3$ as functions of the acidity of the solution. V. G. Chlopov and A. M. Gurevich (*Bull. Acad. Sci. U.R.S.S., Cl. Sci. Chim.*, 1963, 271-279).
 The e.m.f. of cells $\text{Pt}|\text{UO}_2\text{SO}_4, \text{U}(\text{SO}_4)_3, m\text{-H}_2\text{SO}_4||m\text{-H}_2\text{SO}_4, \text{Hg}_2\text{SO}_4|\text{Hg}$, in which $[\text{U}] + [\text{UO}_2] = 0.01$ mol. and $[\text{U}] : [\text{UO}_2]$ varies from 1:9 to 9:1 rises for $[\text{U}] : [\text{UO}_2] = 1$ from 0.1867 at $m = 2.75m$, to 0.4185 v. at $m = 0.08m$, at 25° . The temp. coeff. between 0° and 50° is -1.0×10^{-3} for $m = 0.08m$, and -5.0×10^{-3} at $m = 2.75m$. The standard potential U^{VI}/U^{IV} is calc. to be 0.407; 0.403 v.

ASH 55A METALLURGICAL LITERATURE CLASSIFICATION

GUREVICH, A. M.

BC

A-1

Oxidation-reduction potentials in the system $U(SO_4)_2-U_2(SO_4)_3$ at various activities of solution. V. G. Chlopov and A. M. Gurevich (Bull. Acad. Sci. U.R.S.S. Chem. Ser., 1943, 381-384). Mixtures of $U(SO_4)_2$ and $U_2(SO_4)_3$ are prepared by reducing UO_2SO_4 with Zn-Hg in H_2SO_4 ; the reduction is the more complete the more dil. is the H_2SO_4 ; the mixtures are analysed by potentiometric titration with 0.1N-KMnO₄. The e.m.f. of $Pt|U(SO_4)_2, U_2(SO_4)_3||m-H_2SO_4|m-H_2SO_4, Hg, SO_4|Hg$ is for $U^{III}; U^{IV} = 1.0762$ v. at $m = 0.05$ and 0.640 v. at $m = 2.75$. It depends on $[U^{III} + U^{IV}]$; if this is 0.01M., the standard potential of $U^{III} \rightleftharpoons U^{IV}$ is -0.118 v., and at 0.005M. it is -0.105 v.

J. J. B.

ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION

Gursvich, A.M.

Distr: 4E43/4E3d7

Formation of peruranic acid in solution. A. M. Gursvich, L. D. Pechenkin, and E. V. Komarov. *Zh. Neorg. Khim.* 2, 2307-15 (1957). On the basis of potentiometric and spectrophotometric titrations with alc. NaOH and the analysis of the ppt., it was established that uranyl nitrate reacts with H_2O_2 to form peruranic acid (I) according to the equation: $2UO_2(NO_3)_2 + 2H_2O_2 + H_2O = H_2U_2O_8 + 4HNO_3$. The spectrophotometric curve consisted of 3 peaks owing to the formation of I at pH from 4 to 6, from pH 7 to 9, and >11.5 corresponding, resp., to 2 deriva. of I: $NaHU_2O_8$ and $Na_2U_2O_8$. The dissoci. constn. of I are $K_1 \sim 10^{-4}$ and $K_2 \sim 10^{-9}$; the equil. const. of formation $K_{eq} = 2.1 \times 10^{-4}$. A. P. Koltoby.

PM

GURVICH, A.M.

Analysis of the oxidation - reduction potential of U^{VI}/U^{IV} system.
Trudy Radiev.inst. AN SSSR 6:88-103 '57. (MIRA 11:2)
(Duranium) (Systems (Chemistry)) (Oxidation, Electrolytic)

GUREVICH, A.M.; GREHENSCHIKOVA, V.I.

All-Union Conference on Radiochemistry. Zhur.anal.khim. 12
no.4:572 J1-Ag '57. (MIRA 10:10)
(Leningrad--Radiochemistry)

GUREVICH, A.M.; KOVALEVSKAYA-YASHCHENKO, M.L.

Electrolytic method for isolating uranium from alkaline solutions of peroxyuranates. Trudy Radiofiz. inst. AN SSSR. 8:53-57
'58. (MIRA 12:2)

(Uranium--Electrometallurgy)

GUREVICH, A.M.; PRIGOBRAZHENSKAYA, L.D.; OSICHEVA, N.P.

Study of the mechanism of electrolytic isolation of uranium
from alkaline solutions of peroxyuranates. Trudy Radiev.inst.
AN SSSR. 8:58-76 '58. (MIRA 12:2)
(Uranium--Electrometallurgy)

RATNER, A.P. [deceased]; GUREVICH, A.M.; POLOZHENSKAYA, L.P.

Solubility of the salt $\text{Na}_4\text{UO}_8 \cdot 9 \text{H}_2\text{O}$ in water and solutions of
various electrolytes. Trudy Radiev.inst.AN SSSR. 8:77-85 '58.
(MIRA 12:2)

(Sodium peroxyuranate)

GUREVICH, A.M.; POLOZHENSKAYA, L.P.

Study of products of hydrolysis and thermal decomposition of
 $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ salt in water and aqueous solutions. Trudy Radiev.
inst. AN SSSR. 8:86-98 '58. (MIRA 12:2)
(Sodium peroxyuranate) (Hydrolysis) (Dissociation)

RATNER, A.P. [deceased]; GUREVICH, A.M.; PREOBRAZHENSKAYA, L.D.; OSICHEVA, N.P.

Investigation of the processes of thermal decomposition and
hydrolysis of the salt $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ in alkaline and aqueous
solutions at 80 - 99°C. Trudy Radiev.inst.AN SSSR. 8:99-109
'58. (MIRA 12:2)

(Sodium peroxyuranate) (Hydrolysis) (Dissociation)

RATNER, A.P. [deceased]; GUREVICH, A.M.; PREOBRAZHENSKAYA, L.D.; SIMONOV, N.F.

Investigation of the hydrolysis of Na_4UO_8 . Trudy Radiev.inst.
AN SSSR. 8:110-116 '58. (MIRA 12:2)
(Sodium peroxyuranate) (Hydrolysis)

AUTHORS: Gurevich, A. M., Prechrazhenskaya, L. D. SOV/78-3-11-15/23

TITLE: The Investigation of the Hydrolysis and Decomposition of the Salt $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ in Diluted Solution (Issledovaniye gidroliza i razlozheniya soli $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ v razbavlennykh rastvorakh)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2512-2522 (USSR)

ABSTRACT: In the present paper new data were given on the hydrolysis of $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$. The existence of some hydrolysis products was found in the decomposition. The hydrolysis was carried out by means of physical-chemical methods in diluted solutions of $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ in the range of pH 4-14. A uranium concentration of $1 \cdot 10^{-3}$ mol was used. The following compounds are produced by the hydrolysis: Na_4UO_8 , Na_3HVO_8 , Na_2UO_6 , $\text{Na}_2\text{U}_2\text{O}_9$, NaHU_2O_9 , $\text{H}_2\text{U}_2\text{O}_9$ and $\text{Na}_2\text{U}_2\text{O}_7$.
The complete reversible reaction takes place in aqueous solutions of Na_4UO_8 with a uranium concentration of $1 \cdot 10^{-3}$ mol: $\text{UO}_8^{4-} + \text{H}_2\text{O} \rightleftharpoons \text{HVO}_8^{3-} + \text{OH}^-$.

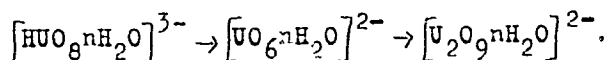
Card 1/4

3

SOV/78-3-11-15/23

The Investigation of the Hydrolysis and Decomposition of the Salt
 $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ in Diluted Solution

On the strength of the spectrometric and potentiometric investigations the value of the dissociation constant of H_4UO_8 and the dissociation constant of the first stage of the hydrolysis of the anion $[\text{UO}_8\text{nH}_2\text{O}]^{4-}$ were calculated. $K \approx 5 \cdot 10^{-13}$ for H_4UO_8 , for $[\text{UO}_8\text{nH}_2\text{O}]^{4-}$ $K \approx 2 \cdot 10^{-2}$. It was shown that the hydrolysis of the anion $[\text{HVO}_8\text{H}_2\text{O}]^{3-}$ takes place immediately in the case of an action of the hydrogen ions and that the decomposition reaction proceeds according to the following scheme:



In the titration of the diluted solutions of $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ and in the pH-intervals 9-6 the same compounds are produced as in the titration of $\text{H}_2\text{U}_2\text{O}_9$ with sodium hydroxide.

On the strength of the obtained results the dissociation constants for the first and second stage of the hydrolysis of

Card 2/8

SOV/78-3-11-15/23

The Investigation of the Hydrolysis and Decomposition of the Salt
 $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ in Diluted Solution

the salt $\text{Na}_2\text{U}_2\text{O}_9$ may be calculated:

$$K^1_{\text{hydrolysis}} = 10^{-4}$$

$$K^2_{\text{hydrolysis}} = 10^{-7}$$

It was shown that at a pH-value of 14,0 of the solution and at room temperature the solutions of $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ obey the Beer's law. Furthermore it was shown that the uranates which were produced at a higher pH-value than 14 are in the case of the action of uranium nitrate on sodium hydroxide solution identical to uranates produced in the decomposition of the salt $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$.

There are 8 figures, 5 tables, and 12 references, 8 of which are Soviet.

SUBMITTED: July 17, 1957

Card 3/A 3

5(4)

AUTHORS: Komarov, Ye. V., Gurevich, A. M. SOV/62-59-3-26/37

TITLE: On the Interaction of Oxalate Complexes of Uranyl With Hydrogen Peroxide (O vzaimodeystvii oksalatnykh kompleksov uranila s perekis'yu vodoroda)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 3, pp 547-550 (USSR)

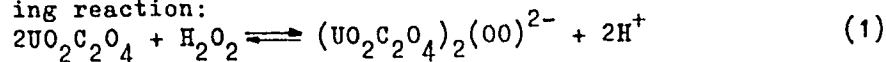
ABSTRACT: In the present paper the system $UO_2^{2+} - C_2O_4^{2-} - H_2O_2 - H_2O$ was investigated by means of measurements of light absorption and the pH at a $5 \cdot 10^{-4} - 4 \cdot 10^{-3}$ molar concentration of uranium. The optical density of the solutions was measured by means of the spectrometer SF-4, the pH solutions by means of the tube potentiometer of the LP-5 type with a glass electrode. Uranyl perchlorate, sodium oxalate, and perhydrol solutions as well as distilled water without CO_2 -content were employed for the production of the solutions investigated. The results of the measurements are given on figures 1 and 2 as well as in table 1. Three discontinuities of the pH may be seen on the potentiometric curves (Fig 1). The spectrometric investigation has shown

Card 1/3

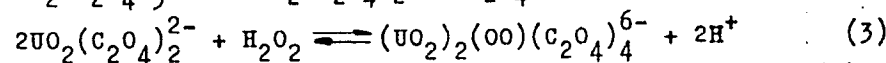
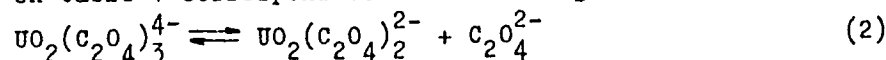
On the Interaction of Oxalate Complexes of Uranyl
With Hydrogen Peroxide

SOV/62-59-3-26/37

that the second and third discontinuity correspond to the formation of the H_2UO_9^- and HU_2O_9^- compounds (Ref 3). The first discontinuity is probably due to the completion of the following reaction:



This conclusion agrees with figure 2. The experimental data on table 1 correspond to the following schemes of equilibrium:



The equilibrium constants computed for the reactions (1), (2), and (3) are listed in table 2. After having investigated the conditions for the formation of two peroxyoxalateuranyl complexes in the solution the authors tried to obtain these compounds in solid form. Solid phases of the following composition were obtained: $(\text{NH}_4)_2(\text{UO}_2)_2(\text{OO})(\text{C}_2\text{O}_4)_2 \cdot x\text{H}_2\text{O}$ and

$(\text{HOOUO}_2\text{C}_2\text{O}_4)\text{NH}_4 \cdot x\text{H}_2\text{O}$. The solid phase of the composition

Card 2/3

On the Interaction of Oxalate Complexes of Uranyl
With Hydrogen Peroxide

SOV/62-59-3-26/37

$R_6[(UO_2)_2(OO)(C_2O_4)_4]$ aq could not be separated due to its strong solubility. There are 2 figures, 2 tables, and 4 references, 3 of which are Soviet.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR
(Radium Institute imeni V. G. Khlopin of the Academy of Sciences, USSR)

SUBMITTED: July 14, 1958

Card 3/3

GUREVICH, A.M.; POLOZHENSKAYA, L.P.

Study of the solid phase in the system $\text{UO}_2(\text{NO}_3)_2 - \text{ROH} - \text{H}_2\text{O}_2 - \text{H}_2\text{O}$.
Radiokhimiia 1 no.5:567-572 '59. (MIRA 13:2)
(Systems (Chemistry))

GUREVICH, A.M.; POLOZHENSKAYA, L.P.

Study of the solid phase in the system $UO_4 \cdot 4H_2O - ROH - H_2O_2 - H_2O$.
Radiokhimiia 1 no.5:573-580 '59. (MIRA 13:2)
(Systems (Chemistry))

5(4)

SOV/70-4-6-16/44

AUTHORS: Gurevich, A. M., Komarov, Ye. V.

TITLE: Investigation of the Polymerization Degree of Some Peruranate Anions in Solution (Izucheniye stepeni polimerizatsii nekotorykh peruranovykh anionov v rastvore)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1309-1312 (USSR)

ABSTRACT: The dissociation character of $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ was determined in aqueous solution as well as the polymerization degree of some peruranate anions in the solution. First the polymerization degree of the anion was determined with three peroxy groups to one uranium atom. The dependence of the relative depression (K/K_0) on the molar concentration of the salts was investigated by means of the eutectic ice- KClO_3 and the results are given in figure 1. The results show that the dissociation in aqueous $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ -solution proceeds according to the scheme $\text{Na}_4\text{UO}_8 \rightleftharpoons \text{UO}_8^{4-} + 4\text{Na}^+$. The anion UO_8^{4-} exists in the solution as monomer. The polymerization degree of the anion which con-

Card 1/2

SOV/78-4-6-16/44

Investigation of the Polymerization Degree of Some Peruranate Anions in Solution

tains two peroxy groups to one uranium atom was investigated. The dependence of the relative depression (K/K_0) on the NaCl-concentration and Na_2UO_6 were investigated by means of the eutectic ice- NaNO_3 . The results show that bimolecular peruranate anions exist in peruranates which contain two peroxy groups to one uranium atom. It was found that no polymerization takes place in the case of the hydrolysis in diluted UO_8^{4-} -solutions. The hydrolysis of Na_4UO_8 in diluted solutions proceeds according to the following equation:

$$\text{UO}_8^{4-} + \text{H}_2\text{O} \rightleftharpoons \text{HUO}_8^{3-} + \text{OH}^-$$
 The change of the pH-value in the solution $\text{Na}_4\text{UO}_8 \cdot 9\text{H}_2\text{O}$ was investigated at constant ionic strength $\mu = 0.85$. The results are given in figure 3. There are 3 figures and 9 references, 3 of which are Soviet.

Card 2/2

5(2)
 AUTHORS: Komarov, Ye. V., Preobrazhenskaya, L. D., Gurevich, A. M. SOV/78-4-7-36/44

TITLE: On Compounds Forming in the System $UO_2(NO_3)_2 - K_2CO_3 - H_2O_2 - H_2O$ (O soyedineniyakh obrazuyushchikhsya v sisteme $UO_2(NO_3)_2 - K_2CO_3 - H_2O_2 - H_2O$)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7, pp 1667 - 1673 (USSR)

ABSTRACT: The investigation of the system mentioned in the title was carried out for the purpose of identifying the compounds formed. The concentration of uranium was of the order of magnitude of from 10^{-4} to $2 \cdot 10^{-3}$ mol, the content of other components was varied. Because of the bright color of the uranium solution in carbonate and hydrogen peroxide it was possible to investigate the solution equilibria and the composition of the complex ions spectrographically. Figure 1 gives the data for measuring the optical density in the case of a constant ratio between uranium and hydrogen peroxide and different content of potassium carbonate. At least 3 compounds are formed with different

Card 1/2

SOV/78-4-7-36/44

On Compounds Forming in the System $\text{UO}_2(\text{NO}_3)_2 - \text{K}_2\text{CO}_3 - \text{H}_2\text{O}_2 - \text{H}_2\text{O}$

spectrophotometric data. The absorption spectra are represented in figure 2 for the range of 320-500 mμ. Figure 3 gives the values for pH and optical density in dependence on the ratio $\text{CO}_3^{2-} : \text{U}$. The analysis of these data, the titration of H_2O_2 (Figs 4,5), and the cryoscopic investigation (Table 1) lead to the result that the following compounds and complex ions are formed: $\text{H}_2\text{U}_2\text{O}_9$, $[\text{UO}_2(\text{CO}_3)_2(\text{OOH})]^{3-}$, $[\text{UO}_2(\text{CO}_3)_2(\text{OO})]^{4-}$, and an anion that contains two peroxide groups per uranium atom. The light absorption is influenced nearly solely by the compounds uranyl - peroxide group. The dissociation constant for $[\text{UO}_2(\text{CO}_3)_2(\text{OOH})]^{3-} = \text{H}^+ + [\text{UO}_2(\text{CO}_3)_2(\text{OO})]^{4-}$ was estimated at $2.5 \cdot 10^{-11}$. There are 6 figures, 2 tables, and 12 references, 4 of which are Soviet.

SUBMITTED: March 25, 1958

Card 2/2

21, 3100

22:56
S, 186/60/002/001/006/022
A057/A129

AUTHORS: Gurevich, A.M.; Preobrazhenskaya, L.D.; Komarov, Ye.V.; Mischeva, N.P.

TITLE: Spectrophotometrical investigation of the system $\text{UO}_2(\text{NO}_3)_2 - \text{ROH} - \text{H}_2\text{O}_2 - \text{H}_2\text{O}$

PERIODICAL: Radiokhimiya, v. 2, no. 1, 1960, 32 - 43

TEXT: In the present work physico-chemical investigations of the system $\text{UO}_2(\text{NO}_3)_2 - \text{ROH} - \text{H}_2\text{O}_2 - \text{H}_2\text{O}$ were made by means of the spectrophotometric method and potentiometric titrations using $10^{-4} - 10^{-3}$ M uranium solutions. In previous papers [Ref. 1: Tr. Radiyevogo inst. im. V.G. Khlopina AN SSSR (Proceedings of the Radium Institute imeni V.G. Khlopin AS USSR), 8, 110 (1958); Ref. 2: ZhNKh, 3, 2512 (1958); Ref. 3: ibid, Ref. 1, 8, 96 (1958)] results concerning hydrolysis and decomposition of the UO_3^{4-} anion have been presented. This research program is continued by the present investigations into the formations and composition of per-uranium anions in the above-mentioned four-component system, whereby the reversibility of the process was studied. Due to the complexity of the system, preliminary investigations with solutions not containing H_2O_2 were carried

Card 1/8

22456

S/186/60/002/001/006/022

Spectrophotometrical investigation of the system....

A057/A129

out, and then the effect of some factors on the composition of the solution in the presence of H_2O_2 was studied. Solutions with a certain content of uranium or H_2O_2 and with increasing ratio ROH/U were prepared by: I - adding quickly alkali to the uranyl nitrate solution containing H_2O_2 ; II - adding simultaneously ROH and H_2O_2 -solutions to uranyl nitrate solutions; III - by slow titration with alkali solution [as described in a previous paper, Ref. 4: ZhNKh, 2, 2307 (1957)]; and IV - adding H_2O_2 to the products of hydrolysis of the uranyl ions formed in the investigated system. The pH measurements were made with a glass electrode and ЛП-5 (LP-5) potentiometer, while optical density D was determined on a СФ-4 (SF-4) spectrophotometer. Constancy of the pH and D values in time and reproducibility of the results indicated a true or a metastable equilibrium in the solution. The dependence of D on pH in solutions not containing H_2O_2 demonstrates that different products of hydrolysis exist in the solutions containing $5 \cdot 10^{-4}$ M uranium at pH 3 - 14. According to data published by J. Sutton [Ref. 5: J. Chem. Soc. Iss. no. 2, 275 (1949)], and S. Ahrlund et al. [Ref. 6: Acta Chem. Scand., 8, 1907 (1954)] the present authors assume the formation of the cations $U_2O_5^{2+}$, and $U_3O_8^{2+}$ at pH 3 - 7, while at pH 8 - 14 apparently poly-nuclear anions are formed. Weakly acidic and strong alkaline (pH 14) solutions of the products of hydrolysis are stable and obey Lambert-Beer's law. Between pH 10 and 12 with

Card 2/8

Spectrophotometrical investigation of the system....

S/186/60/002/001/006/022

A057/A129

uranium concentrations of $5 \cdot 10^{-4}$ M the optical density changes steadily with time apparently due to polymerization and formation of difficultly soluble poly-uranates. The tabulated experimental results obtained with solutions containing H_2O_2 demonstrate that changes in the sequence of mixing of the components or in the time do not change the optical density at pH 6 - 14. Diagrams showing the dependence of D on pH indicate formation of different compounds. By comparison of their absorption spectra the compounds formed in the investigated system $UO_2(NO_3)_2 - ROH - H_2O_2 - H_2O$ ($R = Na^+, K^+$ or NH^+) can be identified. Under certain conditions the same anions are formed in a system with low uranium concentration and in hydrolysis of $Na_4UO_8 \cdot 9 H_2O$ (Ref. 2). According to former investigations $H_2U_2O_9$ is formed in weak acid solutions, while at pH 14 in dependence on the H_2O content formation of polyperuranate $U_4O_{19}^{6-}$ or of the monomer UO_4^{3-} occurs. In the interval of pH 11 - 12 the composition of the solutions depends essentially on: the sequence of mixing of the compounds, the uranium concentration, the ionic strength and the kind of alkali. Discussing the obtained results the authors conclude that in the investigated system (containing H_2O_2) with 10^{-4} - 10^{-3} M uranium concentration and at pH 2 - 14 stepwise formation of complexes occurs. In weakly acidic and strong alkaline solutions the reactions are completely reversible, while at pH 7 - 13 some irreversibility is observed. The latter

Card 3/8

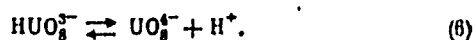
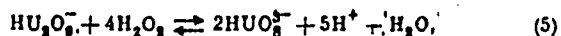
22156

Spectrophotometrical investigation of the system....

S/186/60/002/001/006/022

A057/A129

is due to polymerization effects, which increase with increasing uranium concentration and ionic strength. The difference in degree and character of polymerization can be explained by the existence of compounds with different H_2O_2 content at pH 11 - 12 and different spectrophotometric characteristics (HUO_3^{2-} , $HU_2O_5^{3-}$, $HU_4O_7^{5-}$ or $U_2O_6^{2-}$) non equilibrated... It was observed that in ammoniacal solutions the reaction $UO_3^{2-} + H_2O_2 \rightleftharpoons HUO_3^{2-} + H^+$ is in equilibrium. Considering the present results, conditions can be fixed when only reversible reactions occur, namely the following reactions: $2UO_3^{2+} + 2H_2O_2 + H_2O \rightleftharpoons H_4U_2O_8 + 4H^+$, (3)



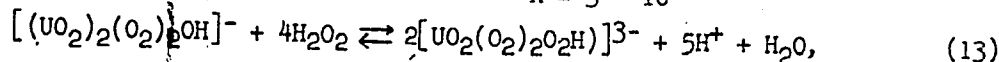
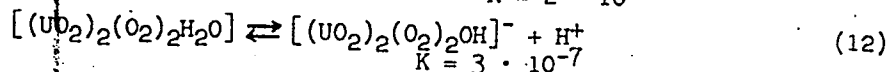
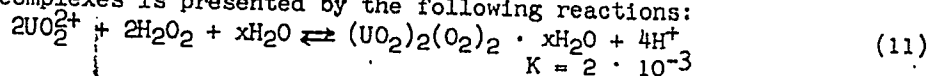
In the present paper it is demonstrated that [contrary to conclusions drawn by G. H. Hüttig and E. Schroeder, Z. Anorg. Chem., 121, 243 (1922)] per-uronic acid is a true peroxide compound. The acid properties of compounds with peroxide bridges between the uranyl ions can be explained by an acid dissociation of an aqua-complex according to reactions $[(UO_2)_2(O_2)_2H_2O] \rightleftharpoons H^+ + [(UO_2)_2(O_2)_2OH]^-$ reported by A.A. Grinberg et al. [Ref. 15: Proceedings of the Radium Institute imeni V.G.

Card 4/8

Spectrophotometrical investigation of the system....

22156
S/186/60/002/001/006/022
A057/A129

Khlopin AS USSR, 7, 74 (1956)]. In the summary reaction $UO_2^{2+} + 3H_2O_2 \rightleftharpoons UO_8^{4-} + 6H^+$ the source of hydrogen ions is H_2O_2 . Thus the UO_8^{4-} ion can be considered as true peroxide complex anion $[UO_2(O_2)_3]^{4-}$, while the HUO_8^{3-} anion can be represented as complex ion $[UO_2(O_2)_2(O_2H)]^{3-}$ which dissociates $[UO_2(O_2)_2(O_2H)]^{3-} \rightleftharpoons H^+ + [UO_2(O_2)_3]^{4-}$. The concept of uranium peroxide compounds as complex compounds of the uranyl ion with hydrogen peroxide anions agrees with some previous results of the present authors [Ref. 19: Izd. AS SSSR, Otd. khim. nauk, 3, 547 (1959)]. Since the existence of such compounds does not agree with the concept of uranium peroxide compounds admitted in classical investigations of Pizazhevskiy, the present authors assume that these compounds have properties of complexes. A suitable nomenclature is given in Table 4 and the reversible stepwise formation of the complexes is presented by the following reactions:



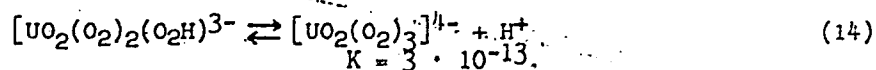
Card 5/8

22156

Spectrophotometrical investigation of the system....

S/186/60/C02/001/C06/022

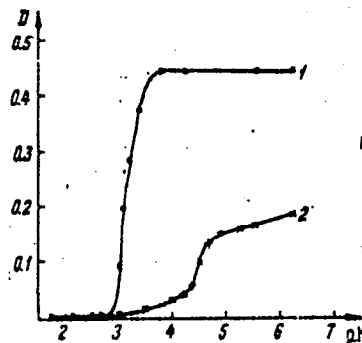
A057/A129



The mechanism or irreversible formation of poly-nuclear compounds must be investigated in further studies. There are 14 figures, 4 tables and 19 references: 12 Soviet-bloc and 7 non-Soviet-bloc.

SUBMITTED: April 24, 1959

Figure 13: Dependence of D on pH. $C_U = 1 \cdot 10^{-4}$ M;
 $\lambda = 380$ m; $l = 10$ cm. 1 - formation of peracid
 $\text{H}_2\text{U}_2\text{O}_9$; 2 - ion hydrolysis UO_2^{2+} .



Card 6/8

5.2200(A)

5(2)

68116

SOV/78-5-1-28/45

AUTHORS: Gurevich, A. M., Polezhenskaya, L. P.

TITLE: Investigation of the Interaction of the Solid Phase $UO_4 \cdot 4H_2O$ With Solutions of Sodium- and Potassium Hydroxide

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 175-179 (USSR)

ABSTRACT: In this article the authors studied the composition of the compounds of $UO_4 \cdot xH_2O$ with alkalis formed at different pH. The results of analysis of UO_4 hydrates obtained by precipitation at room temperature and 90° are listed in table 1. It followed that the precipitation temperature has an effect on the thermal stability of $UO_4 \cdot 4H_2O$. The hydrate precipitated at 90° is converted into $UO_4 \cdot 2H_2O$ at 98° without hydrogen loss, whereas the hydrate precipitated at room temperature loses its peroxide oxygen under equal conditions. It results from tables 2 and 3 that slightly soluble compounds, $RH_2U_2O_9 \cdot xH_2O$ (with pH = 8)

Card 1/3 and $R_2U_2O_9 \cdot xH_2O$ (with pH = 14), are formed in the system

68116

SOV/78-5-1-28/45

Investigation of the Interaction of the Solid Phase $\text{UO}_4 \cdot 4\text{H}_2\text{O}$ With Solutions of Sodium- and Potassium Hydroxide

$\text{UO}_4 \cdot 4\text{H}_2\text{O} - \text{ROH} - \text{H}_2\text{O}$ ($\text{R} = \text{Na}, \text{K}$), irrespective of the alkali-metal type. These compounds are stable at room temperature, and at 100° they lose their peroxide oxygen and are converted into uranates. The X-ray pictures of these compounds are illustrated in figure 1. Highly concentrated alkalies act differently depending on their type. The difficultly soluble salt $\text{K}_2\text{UO}_5 \cdot 4\text{H}_2\text{O}$ is obtained from $\text{UO}_4 \cdot 4\text{H}_2\text{O}$ by means of 13.0 n KOH. NaOH, however, dissolves $\text{UO}_4 \cdot 4\text{H}_2\text{O}$. The analysis of these solutions is given in table 4. The absorption spectra (Fig 2) of the anions of these solutions greatly differ from the absorption spectrum of UO_8^{4-} . These anions contain one peroxide group per U atom. The acid character of $\text{UO}_4 \cdot 4\text{H}_2\text{O}$ is proven by the results of this investigation. The authors thank V. V. Kurbatov for X-ray analysis of the salts. There are 2 figures, 4 tables, and 8 references, 2 of which are Soviet.

Card 2/3

Investigation of the Interaction of the Solid Phase $\text{UO}_4 \cdot 4\text{H}_2\text{O}$ With Solutions
of Sodium- and Potassium Hydroxide

68176
SOV/78-5-1-28/45

SUBMITTED: July 23, 1958

Card 3/3

S/186/61/003/003/011/018

E071/E435

213100

AUTHORS: Gurevich, A.M. and Polozhenskaya, L.P.

TITLE: An Investigation of the Solubility of Peroxo-Complexes of the Uranyl Ion: $K_4[UO_2(O_2)_3] \cdot 5H_2O$ and $K_4[UO_2(O_2)_3] \cdot 4H_2O_2 \cdot 4H_2O$

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.3, pp.316-320

TEXT: Views on the complex nature of peroxide compounds of uranium and corresponding formulae and nomenclature of these compounds were described in previous papers of the authors and their teams (Ref.1: A.M.Gurevich and L.P.Polozhenskaya, Radiokhimiya, 1, 5, 573 (1959); Ref.2: A.M.Gurevich, L.D.Preobrazhenskaya, Ye.V.Komarov and N.P.Osicheva, Radiokhimiya, 2, 1, 32 (1960)). In the present paper the results of an investigation on the solubility of potassium triperoxouranyl $K_4[UO_2(O_2)_3] \cdot xH_2O$ in water and potassium oxide solutions as well as on the solubility of the compound $K_4[UO_2(O_2)_3] \cdot 4H_2O_2 \cdot 4H_2O$ which, in addition to truly bound water, contains hydrogen peroxide of crystallization. The experimental procedure was described in other work (Ref.3: A.P.Patner, A.M.Gurevich, L.P.Polozhenskaya, ZhNKh, 2, 10, 2316 (1957)). The experimental results obtained, Card 1/2

22489

S/186/61/003/003/011/018

E071/E435

An Investigation of ...

which are given, indicated an exceptionally high solubility of complex $K_4[UO_2(O_2)_3] \cdot 5H_2O$ in water which at $0^\circ C$ equals 1.7 ± 0.1 mole/l. The solubility sharply decreases, to 1.6×10^{-3} mole/l, on increasing the concentration of potassium hydroxide to 10 N. The above salt has a strong tendency to hydrolysis and decomposition, well shown under conditions of the determination of its solubility in water and potassium hydroxide solutions at $25^\circ C$. Starting from data on solubility of the salt a simple method of its preparation was developed. At a molar ratio of the components: $[(UO_2)_2(O_2)_2(H_2O)_8] : H_2O_2 : KOH = 1 : 6 : 10$, aquadiperoxydiuranyl dissolves completely. To this solution an equal volume of 10 to 12 N solution of potassium hydroxide is added, whereupon golden-yellow crystals of the salt are precipitated on cooling. The investigation of the solubility of the complex $K_4[UO_2(O_2)_3] \cdot 4H_2O_2 \cdot 4H_2O$ showed that the solubility of the salt in water at $0^\circ C$ equals 0.121 mole/l. It was found that on interaction of the solid phase $K_4[UO_2(O_2)_3] \cdot 4H_2O_2 \cdot 4H_2O$ with potassium hydroxide solutions splitting off of hydrogen peroxide takes place with formation of $K_4[UO_2(O_2)_3] \cdot 5H_2O$. There are 1 figure, 5 tables and 3 Soviet-bloc references.

SUBMITTED: December 3, 1960
Card 2/2

S/186/61/003/003/012/018
E071/E435

21,3100

AUTHOR: Gurevich, A.M.

TITLE: On the Problem of the Complex Nature of Peroxide Uranium Compounds

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.3, pp.321-338

TEXT: On the basis of literature data on peroxide uranium compounds and their properties the author considers the probable structure of these compounds. He concluded that peroxide uranium compounds are typical complex compounds of uranyl ion into the internal sphere of which, in addition to peroxo- and hydroperoxo groups the hydroxy- and aquagroups as well as various active additives such as CO_3^{2-} , $\text{C}_2\text{O}_4^{2-}$ etc. can enter. On considering a complex mechanism of hydrolysis and decomposition of triperoxouranyl $[\text{UO}_2(\text{O}_2)_3]^{4-}$, it is shown that important factors in the mechanism of these processes are: the formation of kinetically unstable complexes, containing hydroperoxogroups in the internal sphere and the transformation of these compounds into stable dimers in which uranyl ions are linked with peroxide bridges. It is shown that in the course of transfer from peroxocomplexes of the type $\text{R}_4[\text{UO}_2(\text{O}_2)_3] \cdot x\text{H}_2\text{O}$, $\text{R}_6[(\text{UO}_2)_2(\text{O}_2)_5(\text{H}_2\text{O})_2] \cdot x\text{H}_2\text{O}$ to aquahydroxyperoxo complexes of the

Card 1/3

On the Problem of the Complex ...

22490
S/186/61/003/003/012/018
E071/E435

type $R_4[(UO_2)_2(O_2)_3(OH)_2(H_2O)_4] \cdot xH_2O$ and $R_2[(UO_2)_2(O_2)_2(OH)_2(H_2O)_4] \cdot xH_2O$ the solubility of the compounds sharply decreases and their kinetic stability sharply increases. The existence is proved of a genetic series of peroxocomplexes, similar to a number of carbonate complexes of uranyl iron, described in the literature. On the basis of chemical and X-ray investigation of the solid phase as well as spectrophotometric and potentiometric investigations of dilute solutions, the individuality of various representatives of genetic series of peroxocomplexes of uranyl ion and formulae proposed for them are considered as proved. It is shown that the coordination number of the uranyl ion in the majority of the compounds studied remains 6. A high strength of the bond linking peroxogroups with uranyl ion in compounds which are representative of various members of the genetic series of peroxocomplexes of uranyl ion is stressed. It is shown that in respect of the strength of its bond to uranyl ion peroxo-ion O_2^{2-} can occupy one of the first places in a series of additives established in the work of I.I.Chernyayev, V.A.Golovnya, T.V.Ellert, R.N.Shchelokov, V.P.Markov (Ref.34: Paper presented at the 2nd UN Conference on the peaceful uses of atomic energy (Geneva, 1958)). There are 4 figures, 8 tables and Card 2/3


On the Problem of the Complex ...

S/186/61/003/003/012/018
E071/E435

39 references: 27 Soviet-bloc and 12 non-Soviet-bloc. The four references to English language publications read as follows: T.Fairley, J.Chem.Soc., 31, 2, 127 (1877); T.Scott, Nature, 163, 768 (1949); T.Scott, Analyst, 75, 100 (1950); T.V.Arden, P.McGlone, Nature, 166, 560 (1950).

SUBMITTED: December 3, 1960

Card 3/3



L 23621-65 EWT(m)/EPF(n)-2/EWA(d)/EWP(t)/EWP(b)/EWP(l) Pu-4 IJP(c)
MJW/JD/JG/MLK

ACCESSION NR: AT5002784

S/0000/64/000/000/0212/0215

AUTHOR: Danishevskiy, S. K.; Gurevich, A. M.; Smirnova, N. I.; Ipatova, S. I.; Pavlova, Ye. I. B+1

TITLE: Development and industrial adoption of thermocouples for high-temperature measurements

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya. 2d, Moscow, 1962.
Reniy (Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 212-215

TOPIC TAGS: rhenum alloy, tungsten alloy, thermocouple, temperature measurement, thermoelectrode wire, platinum electrode

ABSTRACT: Three rhenum-tungsten alloys, VR-5, VR-10, and VR-20 (containing 5, 10, and 20% Re, respectively), were used to make two types of thermocouples, VR-5/20 and VR-10/20, which can be used to measure temperatures between 1000 and 2500C. The thermocouples were found to have a high thermo-emf and sensitivity, and a satisfactory stability at temperatures on the order of 2500C in inert gases and hydrogen (both in the stationary state and at high flow rates) as well as under reduced pressures (10^{-4} mm Hg). The effect of different heat

Card 1/2

L 23621-65

ACCESSION NR: AT5002784

treatments on the ultimate strength and elongation of the thermoelectrode wires was studied. The wires were found to be 5 - 15 times as strong as those of platinum and platinum-rhodium thermoelectrodes. All these characteristics make the rhenium-tungsten thermocouples very useful for industrial applications. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: None

SUBMITTED: 05Aug64

ENGL: 00

SUB CODE: MM, IE

NO REF SOV: 003

OTHER: 002

Card 2/2

L 32276-65 EWT(d)/T/EWP(1) Pg-4. IJP(c)

S/0103/65/026/002/0293/0297

ACCESSION NR: AP5006280

AUTHOR: Gurevich, A. M. (Moscow)

TITLE: On the application of mathematical programming to the statical analysis of multicoordinate linear systems

SOURCE: Avtomatika i telemekhanika, v. 26, no. 2, 1965, 293-297

TOPIC TAGS: linear programming, multicoordinate linear system, linear system statical analysis, game theory, statical accuracy criterion

ABSTRACT: An analysis is made of the multicoordinate control system described by the equation

$$X = AV + Bu + C, \quad (1)$$

where $X = (x_1, x_2, \dots, x_n)$ is a column matrix of controlled variables, $U = (v_1, v_2, \dots, v_m)$ is the column matrix of disturbances, u is the control parameter, A is an $m \times n$ matrix, and B and C are constant column matrices. It is assumed that disturbances are slowly or infrequently varying functions (as compared with the total time of the transient processes of the system) and the operating conditions

Card 1/3

L 32276-65

ACCESSION NR: AP5006280.

of the system can be considered as static. After a certain criterion

$$z = z(X) = z(V, u) \geq 0 \quad (2)$$

of the static accuracy is chosen (for example, the criterion of the maximum absolute error), the problem studied in the article is formulated as follows: to find the minimum necessary variation range $T(u_2 \leq u \leq u_1)$ for the control parameter such that for the arbitrary point $V \in S$, which corresponds to the selected value of $u \in T$, the criterion of the static accuracy does not exceed the allowable value of $z \leq z_a$. It is shown that the defined problem is a problem of the theory of games which can be reduced to the solution of $n^2 + n$ problems of linear programming. It is indicated that no principal difficulties are involved in solving them; however, a large amount of computational work is required for high-order systems. The application of linear programming to the solution of the defined problem is considered in the case when the control function is of the form

$$u = f(x_1), \quad (3)$$

where $f(x_1)$ is an arbitrary piecewise linear function and x_1 is a linear combination of coordinates of the system. Orig. art. has: 2 figures and 34 formulas.

[Lk]

Card 2/3

L 32276-65

ACCESSION NR: AP5006280

ASSOCIATION: none

SUBMITTED: 12Apr63

ENCL: 00

SUB CODE: RA

NO REF SOV: 003

OTHER: 000

ATD PRESS: 3203

Card 3/3

L 36831-66 EWP(k)/EWT(d)/EWT(l)/EWP(h)/EWP(l)/EWP(v) TG/PC

ACC NR: AP6008520

SOURCE CODE: UR/0280/66/000/001/0056/0063

AUTHOR: Gurevich, A. M. (Moscow)

39
B

ORG: none

TITLE: The reliability of logical control systems of cyclic type with periodic testing of operating conditions

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 1, 1966, 56-63

TOPIC TAGS: system reliability, reliability theory, logic circuit

ABSTRACT: In many logical control systems⁴ with limited number of states, numerous breakdowns of elements cause errors in operation of the system only after a certain period of time when the system goes over from one state into another. Periodic testing of such systems could bring such breakdowns to light in time and the immediate replacement of faulty elements could then substantially increase the reliability of such systems. Consequently, the author studies the reliability of systems with n states, called cyclic if the operations are ordered in such a way that the system goes regularly from the i -th state into the $(i + 1)$ -th one. Formulas for the estimate from above and below of the probability of faultless operation P_0 are derived assuming that the time for the carrying out of the various operations can be neglected and that the flow of operations is stationary.

Card 1/2

L 36831-66

ACC NR: AP6008520

0

The article concludes with an illustrative calculation of P_0 for a system with two states as a function of a given time of operation. Orig. art. has: 33 formulas and 3 figures.

SUB CODE: 14,09 / SUBM DATE: 27Aug64 / ORIG REF: 002 / OTH REF: 000

na
Card 2/2

L 18169-63

EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AP3004229

S/0032/63/029/007/0789/0791

AUTHORS: Yegorova, K. I.; Gurevich, A. N. 56

TITLE: Photometric determination of rhenium in titanium alloys by means of 8-mercaptoquinoline

SOURCE: Zavodskaya laboratoriya, v. 29, no. 7, 1963, 789-791

TOPIC TAGS: rhenium, titanium alloy mercaptoquinoline, photometric method

ABSTRACT: The procedure consists in dissolving (with gentle heating) a 0.1-gm sample of the alloy in 30 ml of HCl with specific gravity 1.12, diluting it to the 100-cc mark, then adding solutions of hydroxylamine hydrochloride, of HCl, and sodium mercaptoquinolate. At such acidity most of the mercaptoquinolates of the other metals are broken down, while titanium does not react with the mercaptoquinolate. After heating for 3 minutes in a steam bath and subsequent cooling, the solution is extracted in a separatory funnel by chloroform and the optical density of the latter estimated in a photocolormeter, (showing a maximum at 438 millimicrons). The presence of up to 5 mg of aluminum and zirconium in the

Card 1/2

L 18169-63

ACCESSION NR: AP3004229

specimen does not interfere with the analysis for rhenium, neither do molybdenum (up to 3 mg) and iron or niobium (up to 1 mg of either). Divalent tin is detrimental to the determination of rhenium, and must be oxidized. The described method permits determination of 0.05-7% of rhenium in titanium alloys, with an error of 3%. Orig. art. has: 2 charts and 1 table.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 02Aug63

ENCL: 00

SUB CODE: CH

NO REF SOV: 004

OTHER: 000

Card 2/2

GUREVICH, A.N., kandidat tekhnicheskikh nauk

Semi-rigid diesel generator coupling produced by the Central Scientific Research Institute for the ~~EEL~~ series diesel locomotives. Tekh.zhel.dor.7 no.10:16-19 0 '48. (MLRA 8'11)
(Diesel locomotives)

GUREVICH, A. N.

Test results of the diesel locomotive Series Db Moskva, Gos. transp. zhel.-
dor. izd-vo, 1949. 63 p. (50-27551)

TJ619.M6

SOVIET DIESEL LOCOMOTIVES. (SOVETSKIE TEПЛОВОЗЫ). Shishkin, K.A., Guravich, A.M.
and Platonov, E.V. (Moscow: Mashgis, 1951, 290pp.; title in Recent Acquisitions,
Brit. Museum).

GUREVICH, A.N.

SHISHKIN, K.A., professor; GURFVICH, A.N., kandidat tekhnicheskikh nauk;
STEPANOV, A.D., kandidat tekhnicheskikh nauk; PLATONOV, Ye.V.,
inzhenier; YAKOBSON, P.V., kandidat tekhnicheskikh nauk, dotsent,
laureat Stalinskoy premii, retsenzent; MATVEYEVA, Ye.N., tekhnicheskiiy redaktor; GNEZDILOV, V.B., redaktor

[Soviet diesel locomotives] Sovetskie teplovozy. 2-e izd. ispr. i
dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit.
lit-ry, 1954. 367 p. (MLRA 7:9)
(Diesel locomotives)

TERTYCHKO, Nikolay Alekseyevich; KUZNETSOV, Timofey Fedorovich; GUREVICH, A.N., kandidat tekhnicheskikh nauk, redaktor; VERINA, G.P.; tekhnicheskiiy redaktor.

[The TE2 diesel locomotive; design, maintenance and repair] Teplovoz TE-2; ustroistvo, ukhod i remont. Izd. 2-a, dop. Moskva, Gos. transportnoe zhel-dor. izd-vo, 1955. 359 p. (MIRA 8:6)
(Diesel locomotives)

GUREVICH, A.N., kandidat tekhnicheskikh nauk; RUDAYA, K.I., kandidat
tekhnicheskikh nauk; SEREDIN, A.I.

Design and operational characteristics of the TE3 diesel locomotive.
Zhel.dor.transp. 37 no.12:17-24 D '55. (MLRA 9:5)

1. Glavnyy inzhener Glavnogo upravleniya lokomotivnogo khozyaystva
Ministerstva putey soobshcheniya (for Seredin)
(Diesel locomotives)

GUREVICH, Abram Natanovich; PLATONOV, Yevgeniy Veniaminovich;
SAZONOV, A.U., inzhener, redaktor; VERINA, G.P., tekhnicheskii
redaktor.

[Increasing the power of the TE 2 diesel locomotive] Povyshenie
moshchnosti teplovoza TE2. Moskva, Gos.transp. zhel-dor. izd-vo,
1956. 58 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut
zheleznodorozhnogo transporta. Trudy, no.117). (MLRA 9:10)
(Diesel locomotives)

SHISHKIN, Kirill Aleksandrovich, professor; GUREVICH, Abram Matenovich,
kandidat tekhnicheskikh nauk; STEPANOV, Aleksandr Dmitriyevich,
kandidat tekhnicheskikh nauk; PLATONOV, Yevgenii Veniaminovich,
inzhener; YAKOBSON, P.V., kandidat tekhnicheskikh nauk, retsenzent;
GNEZDILOV, V.B., inzhener, redaktor; SOKOLOVA, T.F., tekhnicheskii
redaktor

[Soviet diesel locomotives] Sovetskie teplovozy. Izd. 3-e, ispr. 1
dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956.
387 p. (MLRA 9:12)

(Diesel locomotives)

GUREVICH, A.N., kandidat tekhnicheskikh nauk.

The new 2D100.diesel locomotive engine. Tekh.zhel,dor.15 no.2:
16-18 Mr '56.

(MIRA 9:7)

(Diesel locomotives)

GUREVICH, A.N., kandidat tekhnicheskikh nauk.

Diesels in locomotives. Nauka i zhizn' 23 no.10:7-10 0 '56.

(MLBA 9:11)

(Diesel locomotives)

GUREVICH A.N.
SHISHKIN, Kirill Aleksandrovich, prof.; GUREVICH, Abram Natanovich, kand.
tekhn.nauk; STEPANOV, Aleksandr Dmitriyevich, kand.tekhn.nauk;
VASIL'YEV, Vladimir Andreyevich, inzh.; SAZONOV, A.G., inzh., red.;
KAMENETSKIY, B.G., kand.tekhn.nauk, red.; KHITROV, P.A., tekhn.red.

[TE 3 diesel locomotive] Teplovoz TE 3. Moskva, Gos. transp.zhel.
dor. izd-vo, 1957. 376 p. (MIRA 11:4)
(Diesel locomotives)

GUREVICH, A.N., kand.tekhn.nauk; KLEPACH, P.T., inzh.

Fuel system performance of a diesel engine operating on small
amounts of fuel. Elek. i tepl. tiaga 2 no.9:39-42 5 '58.
(Diesel engines--Testing) (MIRA 11:10)

GUREVICH, A.N., kand. tekhn. nauk; SIMSON, A.E., kand. tekhn. nauk;
GRINSBERG, F.G., inzh.

Operational system of the ~~TE3~~ diesel locomotive engine, Vest. TSNII
MPS 17 no.4:36-39 Je '58. (MIRA 11:6)
(Diesel locomotives)

FUFRIYANSKIY, N.A., doktor tekhn.nauk, prof.; GUREVICH, A.N., kand.tekhn.
nauk; KOKOSHINSKIY, I.G., kand.tekhn.nauk

Operation of fuel system components of diesel locomotive engines.
Elek. i tepl.tiaga 3 no.2:30-32 P '59. (MIRA 12:4)
(Diesel locomotives—Equipment and supplies)
(Fuel pumps)

GUREVICH, A.N., kand.tekhn.nauk; SIMSON, A.E., kand.tekhn.nauk;
GRINSBERG, F.G., inzh.

Effect of temperature and air pressure on the performance
of a diesel motor. Elek.i tepl.tiaga 3 no.10:39-40 0 '59.
(MIRA 13:2)

(Diesel engines)